CLAIMS:

1. A gas turbine engine comprising a main fluid flow path, a compressor forming a portion of said main fluid flow path, at least one passage for bleeding compressor air from said fluid flow path, and a compressor bleed valve system comprising a bladder inflatable between at least a collapsed position and an expanded position for controlling a flow of compressor air from said main fluid flow path through said at least one passage.

2. A gas turbine engine as defined in claim 1, wherein said at least one passage is at least partly opened when the bladder is deflated to said collapsed position thereof, and wherein said at least one passage is closed when said bladder is inflated to said expanded position thereof.

3. A gas turbine engine as defined in claim 2, wherein said bladder acts as an inflatable seal to sealingly close said at least one passage when inflated to said expanded position.

4. A gas turbine engine as defined in claim 3, wherein said at least one passage includes a plurality of spaced-apart passages, and wherein said bladder simultaneously seals at least two of said plurality of spaced-apart passages, when inflated to said expanded position.

5. A gas turbine engine as defined in claim 4, wherein said plurality of passages includes first and second series of passages, and wherein said bladder includes at least two independently inflatable segments, each segments sealing a respective ones of said first and second series of passages.

6. A gas turbine engine as defined in claim 5, wherein said at least two independently inflatable segments are in fluid flow communication with a source of fluid pressure via a control valve, said control valve being displaceable

between at least a first position wherein both said inflatable segments are connected in fluid flow communication with said source of fluid pressure and a second position wherein only a selected one of said inflatable segments is connected in fluid flow communication with said source of fluid pressure.

7. A gas turbine engine as defined 4, wherein said plurality of spaced-apart passages includes a row of circumferentially distributed passages, and wherein said bladder is positioned radially outwardly of said row of circumferentially distributed passages, said bladder being expandable radially inwardly towards said row of passages for controlling the flow of compressor air theretrough.

8. A gas turbine engine as defined in claim 7, wherein said bladder includes first and second circumferentially oppositely extending boot segments, each boot segment being expandable to sealingly cover a respective series of passages.

9. A gas turbine engine as defined in claim 7, wherein said bladder is expandable radially inwardly from a support ring mounted between a by-pass flow path and said main fluid flow path.

10. A gas turbine engine as defined in claim 1, wherein said bladder includes a circumferentially extending boot positioned about said main flow path, said boot being expandable radially inwardly to sealingly cover said at least one passage.

11. A combination compressor bleed valve actuation and seal system for bleeding air from a gas turbine engine compressor, wherein the gas turbine engine compressor has at least one airbleed passage; the system comprising: a seal inflatable between at least a collapsed position, wherein said airbleed passage is opened, and an expanded position, wherein said seal closes said airbleed

passage in order to prevent pressurized air from being bled off the gas turbine engine compressor.

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12 ~~13.~~ A combination as defined in claim 11 ~~12~~, wherein said seal is mounted to a circumferentially extending seal carrier, said seal projecting radially inwardly of said seal carrier when inflated to said expanded position.

13 ~~14.~~ A combination as defined in claim 12 ~~13~~, wherein said seal includes first and second inflatable boot segments.

14 ~~15.~~ A combination as defined in claim 13 ~~14~~, wherein said first and second boot segments are independently inflatable.

15 ~~16.~~ A combination as defined in claim 13 ~~14~~, wherein said first and second inflatable boot segments extend in circumferential opposite directions about said at least one airbleed passage.

16 ~~17.~~ A combination as defined in claim 14 ~~15~~, wherein said first and second boot segments are in fluid flow communication with a source of fluid pressure via a control valve, said control valve being displaceable between at least a first position wherein both said first and second boot segments are connected in fluid flow communication with said source of fluid pressure and a second position wherein only a selected one of said boot segments is connected in fluid flow communication with said source of fluid pressure.

17 ~~18.~~ A combination compressor bleed valve actuation and seal system for bleeding air from a gas turbine engine compressor, wherein the gas turbine engine compressor has at least one airbleed passage; the system comprising a bladder inflatable between at least a collapsed position and an expanded position for selectively opening and closing said at least one airbleed passage.

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N 18. A combination as defined in claim ~~18~~ 17, wherein said bladder acts as an inflatable seal to sealingly close said at least one passage when inflated to said expanded position.

19 ~~20~~. A combination as defined in claim ~~19~~ 18, wherein said inflatable seal is mounted to a circumferentially extending seal carrier, said seal projecting radially inwardly of said seal carrier when inflated to said expanded position.

20 ~~21~~. A combination as defined in claim ~~20~~ 19, wherein said seal includes first and second inflatable boot segments.

21 ~~22~~. A combination as defined in claim ~~21~~ 20, wherein said first and second boot segments are independently inflatable.

22 ~~23~~. A combination as defined in claim ~~21~~ 20, wherein said first and second inflatable boot segments extend in circumferential opposite directions about said at least one airbleed passage.

23 ~~24~~. A combination as defined in claim ~~21~~ 20, wherein said first and second boot segments are in fluid flow communication with a source of fluid pressure via a control valve, said control valve being displaceable between at least a first position wherein both said first and second segments are connected in fluid flow communication with said source of fluid pressure and a second position wherein only a selected one of said boot segments is connected in fluid flow communication with said source of fluid pressure.

24 ~~25~~. A method of bleeding air from a gas turbine engine compressor, the compressor including a main air flow path in communication with a bleed passage, the method comprising the steps of: a) providing an inflatable member defining a pressurizable chamber, and b) selectively varying an internal fluid

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pressure of said pressurizable chamber to control and air flow from said main air flow path through said bleed passage.

25 ~~26.~~ A method as defined in claim ~~24~~ 25, wherein step b) comprises the step of inflating said inflatable member to an expanded position wherein said inflatable member substantially sealingly close said bleed passage.

26 ~~27.~~ A method as defined in claim ~~25~~ 26, wherein said inflatable member includes first and second sealing boot segments, each segment covering a series of bleed passages, and wherein step b) further comprises the steps of selecting the series of bleed passages to be closed and inflating at least one of said first and second sealing boots in accordance with the selected series of air bleed passages.

27 ~~28.~~ A method as defined in claim ~~24~~ 25, wherein said inflatable member includes a sealing boot extending about said main air flow path, and wherein step b) comprises the steps of expanding said sealing boot radially inwardly towards said bleed passage in order to incrementally limit the flow of air passing from said main air flow path through said bleed passage.